UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/788,459	02/21/2001	Lory Dean Molesky	19111.0013	5665

23517 7590 12/08/2003

SWIDLER BERLIN SHEREFF FRIEDMAN, LLP
3000 K STREET, NW
BOX IP
WASHINGTON, DC 20007

EXAMINER	
LY, ANH	

ART UNIT	PAPER NUMBER
2172	8

DATE MAILED: 12/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/788,459	MOLESKY, LORY DEAN	
	Examiner	Art Unit	
	Anh Ly	2172	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6).MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 September 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see Page 13, lines 6-8, filed 09/09/2003, with respect to the rejection(s)of claim(s) 1, 5-10, 13, 17-23 and 27-32 under US Patent No. 6,230,064 of Nakase et al. have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of US Patent No. 6,496,817 issued to Whang et al.

2. Claims 1-32 are pending in this application.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 6,230,064 issued to Nakase et al. (hereinafter Nakase) in view of US Patent No. 6,496,817 issued to Whang et al. (hereinafter Whang).

With respect to claim 1, Nakase discloses processing the time labels (along with the time axis, the time-series data is labeled to it in order to indicate a time period such as a day, a week or a month, time axis of time series data: see fig. 3, col. 4, lines 42-63 and col. 5, lines 21-38); generating the time labels (time series data is divided based on the time period such as number of days, number of week or number of months: col. 5, lines 1-20); and labeling the time axis of a graph with multi-level time labels (see fig. 3 and col. 7, lines 32-46).

Nakase discloses time-series database for labeling to the time axis according to division of time axis of time series data, event sequence data, event continuous time, and characteristics of time series (see fig. 3, fig. 10 and fig. 11) and extracting a characteristic change of time series data of the each event (col. 2, lines 30-52). Nakase does not explicitly teach generating time labels by processing input data that includes time based data, creating a multi-level data structure and storing the time labels in the multi-level data structure.

However, Whang discloses a time series data including data occurred in various areas such as stock prices, growth rates of company, exchange rates, biomedical measurements and weather data and called as "data sequences" stored in a time series database with a multi-dimensional index data structure and constructing time series database and indexes for time series data (see fig. 3 and fig. 4, col. 7, lines 36-62).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Nakase with the teachings of Whang so as to obtain a multi-dimensional database for storing time series data or

data sequences and constructing time series data indexes for data sequences (col. 7, lines 36-62). This combination would have made the method for automatically labeling time data in the time axis much faster and reducing number of calls for extracting the time series data (Whang – col. 4, lines 28-67), utilizing the event for displaying or demonstrating the time and event sequence and reducing a quality of time series data to be analyzed as the event (Nakase - col. 2, lines 16-18 and col. 5, lines 25-55) in the graph visualizations by demonstration environment.

With respect to claims 2-4, Nakase discloses a method of automatically labeling a time axis of a graph ad discussed in claim 1. And Nakase discloses extracting characteristics of time series data of each event (col. 2, lines 18-61).

Nakase discloses time-series database for labeling to the time axis according to division of time axis of time series data, event sequence data, event continuous time, and characteristics of time series (see fig. 3, fig. 10 and fig. 11) and extracting a characteristic change of time series data of the each event (col. 2, lines 30-52). Nakase does not explicitly teach assigning indexes to each time labels in the multi-level data structure and generating axis markers.

However, Whang discloses the multi-dimensional indexes for the data sequences stored in the time-series database (see abstract, col. 7, lines 36-67) and time axis indicators (col. 4, lines 1-8 and lines 48-67).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Nakase with the teachings of Whang so as to obtain a multi-dimensional database for storing time series data or

data sequences and constructing time series data indexes for data sequences (col. 7, lines 36-62). This combination would have made the method for automatically labeling time data in the time axis much faster and reducing number of calls for extracting the time series data (Whang – col. 4, lines 28-67), utilizing the event for displaying or demonstrating the time and event sequence and reducing a quality of time series data to be analyzed as the event (Nakase - col. 2, lines 16-18 and col. 5, lines 25-55) in the graph visualizations by demonstration environment.

With respect to claim 5, Nakase discloses (a) creating an initial set of time labels; (b) determining whether the initial set of time labels will fit along the time axis and if the initial set of time labels fits along the time axis proceeding to step (g); (c) creating an abbreviated set of time labels; (d) determining whether the abbreviated set of time labels will fit along the time axis and if the abbreviated set of time labels fits along the time axis proceeding to step (g); (e) creating a subset of time labels; (f) determining whether the subset of time labels will fit along the time axis and if the subset of time labels does not fit along the time axis proceeding to step (c); and (g) generating the set of time labels (starting time: see abstract, col. 4, lines 40-67; dividing the time or day into a plurality of period as subset of time: col. 4, lines 57-63 and col. 5, lines 26-67 and col. 6, lines 1-11).

With respect to claim 6, Nakase discloses summing the length of each time label in the initial set of time labels and an inter-label spacing constant; and comparing the sum with the length of the time axis (see abstract and col. 4, lines 40-63).

With respect to claim 7, Nakase discloses summing the length of each time label in the abbreviated set of time labels and an inter-label spacing constant; and comparing the sum with the length of the time axis (col. 5, lines 26-67 and col. 6, lines 1-11).

With respect to claim 8, Nakase discloses summing the length of each time label in the subset of time labels and an inter label spacing constant; and comparing the sum with the length of the time axis (dividing the time or day into a plurality of period as subset of time: col. 4, lines 57-63).

With respect to claim 9, Nakase discloses whereas the step of processing the multi-level data structure to refine the time labels comprises extending the precision of the time labels (col. 10, lines 7-16).

With respect to claim 10, Nakase discloses whereas the step of processing the multi-level data structure to refine the time labels comprises merging the levels in the multi-level data structure (col. 5, lines 21-38).

With respect to claim 11, Nakase discloses generating time labels (along with the time axis, the time-series data is labeled to it in order to indicate a time period such as a day, a week or a month, time axis of time series data: see fig. 3, col. 4, lines 42-63 and col. 5, lines 21-38); generating the time labels and populating the time labels and refining the time labels and labeling the time axis with the time labels (see abstract, col. 1, lines 6-10; col. 1, lines 46-51; time series database: see fig. 1, col. 4, lines 40-48; col. 5, lines 21-38 and col. 5, lines 1-20; time series data is divided based on the time period such as number of days, number of week or number of months: col. 5, lines 1-20; and see fig. 3 and col. 7, lines 32-46).

Nakase discloses time-series database for labeling to the time axis according to division of time axis of time series data, event sequence data, event continuous time, and characteristics of time series (see fig. 3, fig. 10 and fig. 11) and extracting a characteristic change of time series data of the each event (col. 2, lines 30-52). Nakase does not explicitly teach generating a multi-level data structure to store the time labels; refining the time labels in the multi-level data structure; defining axis markers that will be displayed on the time axis.

However, Whang discloses a time series data including data occurred in various areas such as stock prices, growth rates of company, exchange rates, biomedical measurements and weather data and called as "data sequences" stored in a time series database with a multi-dimensional index data structure and constructing time series database and indexes for time series data and labeling the time series data in the window slides and using heuristic method to create indexes for time series data in order to label with the time axis (see fig. 3 and fig. 4, col. 7, lines 36-62; also see col. 3, lines 5-50 and col. 4, lines 8-28).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Nakase with the teachings of Whang so as to obtain a multi-dimensional database for storing time series data or data sequences and constructing time series data indexes for data sequences (col. 7, lines 36-62). This combination would have made the method for automatically labeling time data in the time axis much faster and reducing number of calls for extracting the time series data (Whang – col. 4, lines 28-67), utilizing the event for displaying or

demonstrating the time and event sequence and reducing a quality of time series data to be analyzed as the event (Nakase - col. 2, lines 16-18 and col. 5, lines 25-55) in the graph visualizations by demonstration environment.

With respect to claim 12, Nakase discloses generating time labels (along with the time axis, the time-series data is labeled to it in order to indicate a time period such as a day, a week or a month, time axis of time series data: see fig. 3, col. 4, lines 42-63 and col. 5, lines 21-38); generating the time labels and populating the time labels and refining the time labels and labeling the time axis with the time labels (see abstract, col. 1, lines 6-10; col. 1, lines 46-51; time series database: see fig. 1, col. 4, lines 40-48; col. 5, lines 21-38 and col. 5, lines 1-20; time series data is divided based on the time period such as number of days, number of week or number of months: col. 5, lines 1-20; and see fig. 3 and col. 7, lines 32-46).

Nakase discloses time-series database for labeling to the time axis according to division of time axis of time series data, event sequence data, event continuous time, and characteristics of time series (see fig. 3, fig. 10 and fig. 11) and extracting a characteristic change of time series data of the each event (col. 2, lines 30-52). Nakase does not explicitly teach generating a multi-level data structure to store the time labels; refining the time labels in the multi-level data structure; defining axis markers that will be displayed on the time axis and time labels are multi-level time labels.

However, Whang discloses a time series data including data occurred in various areas such as stock prices, growth rates of company, exchange rates, biomedical measurements and weather data and called as "data sequences" stored in a time series

database with a multi-dimensional index data structure and constructing time series database and indexes for time series data and labeling the time series data in the window slides and using heuristic method to create indexes for time series data in order to label with the time axis (see fig. 3 and fig. 4, col. 7, lines 36-62; also see col. 3, lines 5-50 and col. 4, lines 8-28); and time labels are multi-level time labels (time series data are stored in a multi-dimensional index database and extracted or retrieved based on the characteristics of time series data via a subsequence matching process accessing the time series database (col. 8, lines 12-67).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Nakase with the teachings of Whang so as to obtain a multi-dimensional database for storing time series data or data sequences and constructing time series data indexes for data sequences (col. 7, lines 36-62). This combination would have made the method for automatically labeling time data in the time axis much faster and reducing number of calls for extracting the time series data (Whang – col. 4, lines 28-67), utilizing the event for displaying or demonstrating the time and event sequence and reducing a quality of time series data to be analyzed as the event (Nakase - col. 2, lines 16-18 and col. 5, lines 25-55) in the graph visualizations by demonstration environment.

Claim 13 is essentially the same as claim 1 except that it is directed to a system rather than a method ('064 of along with the time axis, the time-series data is labeled to it in order to indicate a time period such as a day, a week or a month, time axis of time series data: see fig. 3, col. 4, lines 42-63 and col. 5, lines 21-38; time series data is

divided based on the time period such as number of days, number of week or number of months: col. 5, lines 1-20; and see fig. 3 and col. 7, lines 32-46; and '817 of a time series data including data occurred in various areas such as stock prices, growth rates of company, exchange rates, biomedical measurements and weather data and called as "data sequences" stored in a time series database with a multi-dimensional index data structure and constructing time series database and indexes for time series data: see fig. 3 and fig. 4, col. 7, lines 36-62), and is rejected for the same reason as applied to the claim 1 hereinabove.

Claim 14 is essentially the same as claim 2 except that it is directed to a system rather than a method (see abstract, col. 7, lines 36-67), and is rejected for the same reason as applied to the claim 5 hereinabove.

Claim 15 is essentially the same as claim 3 except that it is directed to a system rather than a method (time axis indicators:(col. 4, lines 1-8 and lines 48-67), and is rejected for the same reason as applied to the claim 5 hereinabove.

Claim 16 is essentially the same as claim 4 except that it is directed to a system rather than a method (see abstract, col. 7, lines 36-67), and is rejected for the same reason as applied to the claim 5 hereinabove.

Claim 17 is essentially the same as claim 5 except that it is directed to a system rather than a method (starting time: see abstract, col. 4, lines 40-67; dividing the time or day into a plurality of period as subset of time: col. 4, lines 57-63 and col. 5, lines 26-67 and col. 6, lines 1-11), and is rejected for the same reason as applied to the claim 5 hereinabove.

Claim 18 is essentially the same as claim 6 except that it is directed to a system rather than a method (starting time: see abstract, col. 4, lines 40-67), and is rejected for the same reason as applied to the claim 6 hereinabove.

Claim 19 is essentially the same as claim 7 except that it is directed to a system rather than a method (col. 5, lines 26-67 and col. 6, lines 1-11), and is rejected for the same reason as applied to the claim 7 hereinabove.

Claim 20 is essentially the same as claim 8 except that it is directed to a system rather than a method (dividing the time or day into a plurality of period as subset of time: col. 4, lines 57-63), and is rejected for the same reason as applied to the claim 8 hereinabove.

Claim 21 is essentially the same as claim 9 except that it is directed to a system rather than a method (col. 10, lines 7-16), and is rejected for the same reason as applied to the claim 9 hereinabove.

Claim 22 is essentially the same as claim 10 except that it is directed to a system rather than a method (col. 5, lines 21-38), and is rejected for the same reason as applied to the claim 10 hereinabove.

Claim 23 is essentially the same as claim 1 except that it is directed to a computer program product rather than a method (064 of along with the time axis, the time-series data is labeled to it in order to indicate a time period such as a day, a week or a month, time axis of time series data: see fig. 3, col. 4, lines 42-63 and col. 5, lines 21-38; time series data is divided based on the time period such as number of days, number of week or number of months: col. 5, lines 1-20; and see fig. 3 and col. 7, lines

32-46; and '817 of a time series data including data occurred in various areas such as stock prices, growth rates of company, exchange rates, biomedical measurements and weather data and called as "data sequences" stored in a time series database with a multi-dimensional index data structure and constructing time series database and indexes for time series data: see fig. 3 and fig. 4, col. 7, lines 36-62), and is rejected for the same reason as applied to the claim 1 hereinabove.

Claim 24 is essentially the same as claim 2 except that it is directed to a computer program product rather than a method (see abstract, col. 7, lines 36-67), and is rejected for the same reason as applied to the claim 5 hereinabove.

Claim 25 is essentially the same as claim 3 except that it is directed to a computer program product rather than a method (time axis indicators:(col. 4, lines 1-8 and lines 48-67), and is rejected for the same reason as applied to the claim 5 hereinabove.

Claim 26 is essentially the same as claim 4 except that it is directed to a computer program product rather than a method (see abstract, col. 7, lines 36-67), and is rejected for the same reason as applied to the claim 5 hereinabove.

Claim 27 is essentially the same as claim 5 except that it is directed to a computer program product rather than a method (starting time: see abstract, col. 4, lines 40-67; dividing the time or day into a plurality of period as subset of time: col. 4, lines 57-63 and col. 5, lines 26-67 and col. 6, lines 1-11), and is rejected for the same reason as applied to the claim 5 hereinabove.

Claim 28 is essentially the same as claim 6 except that it is directed to a computer program product rather than a method (starting time: see abstract, col. 4, lines 40-67), and is rejected for the same reason as applied to the claim 6 hereinabove.

Claim 29 is essentially the same as claim 7 except that it is directed to a computer program product rather than a method (col. 5, lines 26-67 and col. 6, lines 1-11), and is rejected for the same reason as applied to the claim 7 hereinabove.

Claim 30 is essentially the same as claim 8 except that it is directed to a computer program product rather than a method (dividing the time or day into a plurality of period as subset of time: col. 4, lines 57-63), and is rejected for the same reason as applied to the claim 8 hereinabove.

Claim 31 is essentially the same as claim 9 except that it is directed to a computer program product rather than a method (col. 10, lines 7-16), and is rejected for the same reason as applied to the claim 9 hereinabove.

Claim 32 is essentially the same as claim 10 except that it is directed to a computer program product rather than a method (col. 5, lines 21-38), and is rejected for the same reason as applied to the claim 10 hereinabove.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patent No. 6,157,929 issued to Zamiska et al.

US Patent No. 6,219,050 issued to Schaffer

US Patent No. 5,895,451 issued to Yamade et al.

US Patent No. 6,064,401 issued to Holzman et al.

US Patent No. 6,320,585 issued to Engel et al.

US Patent No. 5,581,677 issued to Myers et al.

US Patent No. 6,023,703 issued to Hill

"Automatically Labeling Web Pages Based on Normal User Action" of Jeremy Goecks and Jushavlik

Contact Information

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anh Ly whose telephone number is 703 306-4527 or via E-Mail: ANH.LY@USPTO.GOV. The examiner can normally be reached on 7:30 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Vu can be reached on 703 305-4393.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to: (703) 7872-9306 (Central Official Fax number, effective since 08/04/2003).

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Fourth Floor (receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308-6606 or (703) 305-3900.

AL
Nov. 21st, 2003

KIM VU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100